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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,805	12/11/2003	Robert Mitchell	002895/P1	5889

7590

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Robert Mulcahy, Esq.  
Legal Affairs Dept.  
APPLIED MATERIALS, INC.  
Box 450A  
Santa Clara, CA 95052

EXAMINER

KEENAN, JAMES W

ART UNIT

PAPER NUMBER

3652

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/732,805	<b>Applicant(s)</b> MITCHELL ET AL.	
	<b>Examiner</b> James Keenan	<b>Art Unit</b> 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/11/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

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1. The continuing data section of the specification should be amended to indicate that the parent application 09/996,805 is itself a continuation of application 09/293,939, as well as updating the status of these applications with the corresponding Patent numbers.

2. The disclosure is objected to because of the following informalities: on page 19, line 25, it is stated that the valve 113 is raised to the (open) position shown in figure 6, but page 20, line 6, states that the valve is shown in the closed position in figure 6.

Appropriate correction is required.

3. Claims 1, 9, and 16-18 are objected to because of the following informalities:  
in claims 1 and 9, the word --centered-- is misspelled;  
in claims 16 and 17, "parts" and "part", respectively, should apparently be --ports-- and --port--.

In claim 18, line 2, --in-- should be inserted after "chamber".

Appropriate correction is required.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 6, 13, 15, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto et al (US 5,482,607).

Hashimoto et al show a loadlock assembly for wafer processing in a vacuum chamber 41 including loadlocks 410 with first valves 419, second valves 411, and a port for evacuating/pressurizing the loadlock (not explicitly shown but inherent: see col. 9, line 17), wherein the first valve has a first width to accommodate wafers linearly transported therethrough and the second valve has a larger second width to accommodate wafers transported therethrough on an arcuate path centered on an axis 412 perpendicular to the second width located on the vacuum side of the second valve (see esp. fig. 11).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 2, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al.

Although the ratio of the second to first width is not specified, it appears to be at least 1.2:1. In any event, it would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Hashimoto et al such that this ratio was at least 1.2:1, if not already present, as it has been held that discovering an optimum value or range of a variable involves only routine skill in the art.

Re claims 8 and 9, the addition of a hinged lid for allowing access to the loadlock would have been an obvious design expediency for easier maintenance and repair.

9. Claims 3-5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al in view of Sato et al (US 5,857,826).

Although the second valves of Hashimoto et al are gate or "slit" valves, the first valves are not.

Sato et al show in figure 8 a generally similar wafer processing system in which load locks 11e, 11f have "isolation gate valves". Although not explicitly shown, these are considered "slit" valves, absent any claimed structural limitations.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Hashimoto et al by utilizing slit valves for

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the first and second valves, as suggested by Sato et al, as this would merely be an alternate equivalent design choice for opening a load lock, the use of which would neither require undue experimentation nor produce unexpected results.

10. Claims 9, 12, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al in view of Adams (US 6,059,507).

Hashimoto et al do not show the load locks to be stacked.

Adams shows a wafer processing arrangement in which load locks 34, 38 are vertically stacked.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Hashimoto et al by stacking the loadlocks vertically, as this would increase throughput.

11. Claims 10, 11, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al in view of Adams, as applied to claims 9 and 18 above, and further in view of Sato et al.

Re claims 10 and 11, this rejection utilizes the same obviousness rationale set forth above in paragraph 9 with respect to claims 3-5.

Re claims 19 and 20, Sato et al show a robot with first and second arms movable along a vertical axis and independently rotatable about the axis. It would have been obvious for one of ordinary skill in the art at the time of the invention to have further modified the apparatus of Hashimoto et al by utilizing such a robot, especially when

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equipped with vertically stacked loadlocks, as this would allow each gripper arm to independently access each loadlock as appropriate, thereby further increasing throughput.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. The examiner can normally be reached on (schedule varies).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eillen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
James Keenan  
Primary Examiner  
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